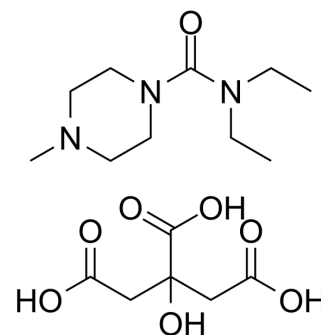


## Diethylcarbamazine citrate

<b>Cat. No.:</b>	HY-12642
<b>CAS No.:</b>	1642-54-2
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>29</sub> N <sub>3</sub> O <sub>8</sub>
<b>Molecular Weight:</b>	391.42
<b>Target:</b>	Parasite
<b>Pathway:</b>	Anti-infection
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 100 mg/mL (255.48 mM; Need ultrasonic)  
 DMSO : ≥ 39 mg/mL (99.64 mM)  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.5548 mL	12.7740 mL	25.5480 mL
	5 mM	0.5110 mL	2.5548 mL	5.1096 mL
	10 mM	0.2555 mL	1.2774 mL	2.5548 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (6.39 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Diethylcarbamazine citrate is an orally active anthropoidal compound. Diethylcarbamazine citrate is an inhibitor of arachidonic acid metabolism of filaria microfilaria. Diethylcarbamazine citrate has anti-inflammatory and antiparasitic activity<sup>[1][2][3]</sup>.

#### In Vivo

Diethylcarbamazine citrate (250 mg/kg intravenously, single dose) induces a sharp early decrease in mf count in albino-infected rats, followed by an increase<sup>[2]</sup>.  
 Diethylcarbamazine citrate (50 mg/kg orally, twice weekly) can improve insulin resistance in obese mice induced by high-fat

diet by regulating adipose tissue inflammation<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	HFD-induced obese mice <sup>[3]</sup>
Dosage:	50 mg/kg
Administration:	p.o. twice a week
Result:	Reduced glucose , triglycerides and insulin levels. Reduced the levels of TNF- $\alpha$ , IL-6 and MCP-1. Reduced COX activity and inhibited this translocated or activated NF- $\kappa$ Bp65.

## REFERENCES

- [1]. El-Shahawi GA, et al. *Setaria equina*: in vivo effect of diethylcarbamazine citrate on microfilariae in albino rats. *Exp Parasitol*. 2010 Dec;126(4):603-10.
- [2]. Abdul-Razek N, et al. Enhancement of Anti-allergic Effect of Diethylcarbamazine Citrate in Asthmatic Mouse Model: Testing of Anti-drug Antibodies and Quercetin. *Iran J Allergy Asthma Immunol*. 2020 Aug 25;19(4):373-385.
- [3]. Abdel-Latif M. Diethylcarbamazine citrate ameliorates insulin resistance in high-fat diet-induced obese mice via modulation of adipose tissue inflammation. *Int Immunopharmacol*. 2015 Dec;29(2):607-612.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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